

## Appendix D1

### Volumes and Areal Extent of Contaminated Media - Computations

#### Soil

Upper Bluff Area	Area (sq. ft.)	Area (acres)	Thickness (ft)	Volume (cubic yds)	Approximate Volume <sup>1</sup>	Assumptions
<b>Lateral Extent of Soil Contamination - Unsaturated Zone</b>						
Lateral Extent - Upland Area	88,000	2.02	10	32,593	32,600	Lateral extent (2.02 acres) where benzene exceeded RCL. Average thickness of plume is 10 feet.
Entire Filled Ravine Area	55,900	1.28	10	20,704	20,700	Lateral extent of filled ravine where benzene exceeded RCL. Average thickness is 10 feet.
<b>Unlimited Removal Volume - Unsaturated and Saturated Zones</b>						
Filled Ravine	47,300	1.09	20	35,037	35,000	Lateral extent of filled ravine north of alley. Average thickness is 20 feet.
<b>Limited Removal Volume - Unsaturated and Saturated Zones</b>						
Former Gas Holder Area	16,900	0.39	15	9,389	9,400	Area south of St. Claire Street is 130 by 130 feet. Average depth is 15 feet.
Former Clay Pipe Area	750		5	139	150	Area north of St. Claire Street is 10 by 75 feet at base of ravine, and 5 feet thick.

Kreher Park	Area (sq. ft.)	Area (acres)	Thickness (ft)	Volume (cubic yds)	Approximate Volume <sup>1</sup>	Assumptions
Lateral Extent - Kreher Park	505,296	11.60	12	224,576	224,600	Lateral extent (11.6 acres) of all fill in Kreher Park
Lateral Extent - Kreher Park	452,153	10.38	5	83,732	83,700	Lateral extent (10.38 acres) where benzene exceeded RCL. Average thickness is 5 feet.
Former Coal Tar Dump Area	26,000	0.60	5	4,815	4,800	Area is 260 by 100 feet. Thickness above wood waste layer is 5 feet. (Includes saturated and unsaturated zone soil.)

#### Groundwater and Saturated Soil Media

Upper Bluff Area	Area (sq. ft.)	Area (acres)	Thickness (ft)	Volume (cubic yds)	Approximate Volume <sup>1</sup>	Assumptions
Lateral Extent - Upland Area	118,000	2.71	15	65,556	65,600	Lateral extent (2.71 acres) where benzene exceeds ES. Average thickness of plume is 15 feet.
<b>Kreher Park</b>						
Lateral Extent - Kreher Park	452,153	10.38	7	117,225	117,200	Lateral extent (10.38 acres) where benzene exceeds ES. Average thickness of plume is 7 feet.
<b>Copper Falls Aquifer</b>						
Lateral Extent - Upland Area	198,000	4.55	50	366,667	366,700	Lateral extent (4.55 acres) where benzene exceeds ES. Average thickness of plume is 50 feet.
Lateral Extent - Kreher Park	103,000	2.36	35	133,519	133,500	Lateral extent (2.36 acres) where benzene exceeds ES. Average thickness of plume is 35 feet.
	301,000	6.91		500,185	500,200	Sum of Kreher Park and Upland Area plume volumes.

#### Sediment

	Area (sq. ft.)	Area (acres)	Thickness (ft)	Volume (cubic yds)	Approximate Volume <sup>1</sup>	Assumptions <sup>2</sup>
Lateral Extent - Total PAH > 10 ppm	436,471	10.0	0 - 10	73,771	73,800	Lateral extent (10.02 acres) where total PAH > 10 ppm. Removal of all contaminated media up to 10 feet.
Lateral Extent - Total PAH > 10 ppm	527,076	12.1	0 - 4	78,085	78,000	Lateral extent (12.1 acres) where total PAH > 10 ppm. Removal of all contaminated media up to 4 feet.
Lateral Extent - Total PAH > 10 ppm	696,960	16.0	0 - 10	133,906	133,900	Lateral extent (16 acres) where total PAH > 10 ppm. Removal of all contaminated media up to 10 feet.

1 Rounded to nearest 100 cubic yards.

2 Not all sediment between 0 and 10 feet has total PAH exceedances above 10 ppm.

Wood waste layer included in all volume calculations.

See Section 4.3 of Alternative Screening Technical Memorandum for further explanation.